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NEW CICHLID FISHES FROM LAKE NYASSA

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The Museum has recently received a collection of fishes obtained in the summer of 1929 by R. and L. Boulton of the Straus African Expedition, from Karonga and Deep Bay, two points on the western shore near the northern end of Lake Nyassa. The great majority of these are cichlids.

The cichlids of the lake have been reviewed by Regan,[2] and several new species since described by Ahl,[3] but two of our twenty-six species appear to be new. A table, following Regan's classification, will give an idea of the abundance of these fishes in Lake Nyassa and the extent of the present collection.

Genus	Number of Species			
	In Regan, 1921	Added by Ahl, 1927	To Hand	New
Tilapia	4		2	
Corematodus	1			
Hemitilapia	1			
Otopharynx	2		2	
Chilotilapia	1			
Astatotilapia	1			
Pseudotropheus	5	1	3	
Labeotropheus		2	1	
Cynotilapia	1		1	
Serranochromis	1		1	
Haplochromis	52	7	16	2
Lethrinops	4	3		
Docimodus	1			
Cyrtocara	3			
Rhamphochromis	6	2		
Aulonocara	1			

[1] Drawings of the type specimens by Mrs. Helen Ziska.
[2] Regan, 1921, Proc. Zool. Soc. London, II, pp. 675–727.
[3] Ahl, 1927, Sits. Ges. N.F. Berlin, for 1926, pp. 51–62.

Statistically, these figures would indicate that habitats in the lake comparable to those from which collections have been made contain some 107 recognizable cichlids, or that about 94 per cent of their cichlid fauna has been described.

We have in the collection, for comparison with the two forms described as new, the following species:

Tilapia melanopleura Duméril; young.	Deep Bay
Tilapia shirana (Boulenger).	Karonga and Deep Bay
Otopharynx auromarginatus (Boulenger).	Deep Bay
Otopharynx selenurus Regan; one.	Karonga
Pseudotropheus williamsi (Günther).	Karonga and Deep Bay
Pseudotropheus zebra (Boulenger).	Deep Bay
Pseudotropheus novemfasciatus Regan.	Deep Bay
Labeotropheus fülleborni Ahl.	Deep Bay
Cynotilapia afra (Günther); one.	Deep Bay
Serranochromis thumbergii (Castelnau); one.	Deep Bay
Haplochromis johnstoni (Günther); one young.	Deep Bay
Haplochromis kirkii (Günther).	Karonga
Haplochromis similis Regan; one.	Deep Bay
Haplochromis urotænia Regan; one.	Karonga
Haplochromis strigatus Regan; one.	Karonga
Haplochromis dimidiatus (Günther).	Karonga
Haplochromis auritus Regan.	Karonga
Haplochromis tetrastigma (Günther).	Deep Bay
Haplochromis chrysonotus (Boulenger).	Deep Bay
Haplochromis sphærodon Regan.	Deep Bay
Haplochromis macrophthalmus (Boulenger).	Karonga
Haplochromis leuciscus Regan.	Karonga and Deep Bay
Haplochromis compressiceps (Boulenger).	Karonga and Deep Bay
Haplochromis macrorhynchus Regan; one.	Karonga

Our specimens of *Pseudotropheus williamsi* indicate that it is variable and that *P. zebra* is closely related and can not be separated by the characters used in Regan's synopsis of the species of *Pseudotropheus*. The diagnostic characters of *P. zebra* seem to be an appreciably longer lower jaw and smaller conical teeth on the side of the upper jaw, more or less gibbous nape and concave profile, ventrals with filamentous tips reaching well past front of anal. Our three specimens of *P. zebra*, 78 to 90 mm. standard length, are dusky like most of our *P. williamsi*, some of which, however, are banded.

Haplochromis dimidiatus and *H. macrophthalmus* seemingly become more slender with increase of size. Our specimens of the former, 57–95 mm. standard length, have depth 3.3 to 3.6, versus 4 given by Regan

who had larger material. Our three specimens of *H. macrophthalmus* have depth 2.7 (at 66 mm. standard) and 3.3 (79 and 90 mm.).

Haplochromis centropristoides, new species

DESCRIPTION OF TYPE.—No. 9683, American Museum of Natural History, from Karonga, Lake Nyassa; June 30, 1929; collected by R. and L. Boulton of the Straus African Expedition.

Length to base of caudal, 88 mm. Depth in this length, 2.8; head, 3. Eye in head, 4; snout, 2.6, equal to postorbital part of head; maxillary, 2.7; interorbital, 4.1; greatest thickness of body (at shoulder), 1.9; depth of peduncle, 2.6; its length, 2.5; longest dorsal spine, 2.4; longest dorsal ray, 1.5; third anal spine, 2.8; longest anal ray, 1.6; pectoral, 1.4 (not reaching to over anal origin); ventral, 1.2 (its filamentous tip passing anal origin); caudal, 1.5.

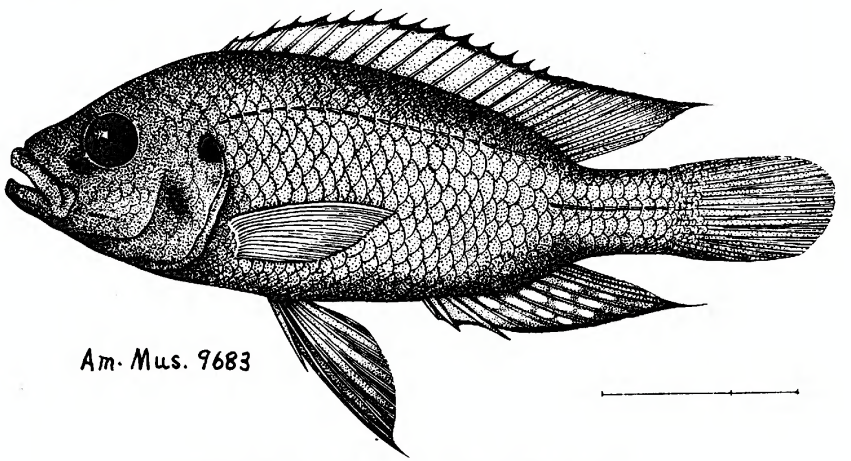

Fig. 1. *Haplochromis centropristoides*, type.

Dorsal, XV, 11; anal III, 9. Scales, 30; lateral lines 20+9; 4½ rows of scales between lateral line and dorsal, 10 between lateral line and ventral; 3 or 4 on the cheek; 16 around peduncle. Teeth in rather broad bands in the jaws; outer row moderately enlarged, bicuspid; 13 gill-rakers on the first arch, 9 on its lower limb.

Profile slightly concave; nape broad and slightly elevated; jaws equal; mouth moderately oblique; maxillary not quite to under front margin of eye. Caudal obliquely truncate, its upper rays somewhat the longer. Scales slightly ctenoid, small and cycloid on the chest, extended forward on the top of the head to a little beyond the center of the eye. Color in spirits, including the fins, rather uniform dusky, the front of the ventral and margins of the vertical fins darkest.

Apparently close to but distinct from *H. fuscus* Regan, 1925, from Lake Edward; with smaller mouth, less elevated nape, more dorsal rays, more pointed fins, etc.

Haplochromis boultoni, new species

DESCRIPTION OF TYPE.—No. 9684, American Museum of Natural History, from Karonga, Lake Nyassa; about July 1, 1929; collected by R. and L. Boulton of the Straus African Expedition.

Length to base of caudal, 80 mm. Depth in this length, 4.5; head, 3.1. Eye in head, 4; snout, 2.6 (equal to postorbital part of head); maxillary, 3.1; interorbital, 4.9; thickness of body, 2.9; depth of peduncle, 3.3; its length, 2; longest dorsal spine, 2.9; longest dorsal ray, 2.6; third anal spine, 2.9; longest anal ray, 2.9; pectoral, 1.5; ventral, 1.7; upper caudal lobe (the longer), 1.4.

Dorsal XVIII, 12; anal III, 10. Scales, 38; lateral lines 25+ about 16; 4½ rows between lateral line and dorsal, about 10 between same and ventral; 3 or 4 on the cheek; 18 around peduncle. Teeth all conical, an outer series of somewhat irregular, well-spaced enlarged teeth and two or three inner series; pharyngeal teeth small and pointed; 11 small gill-rakers on the lower limb of the first arch.

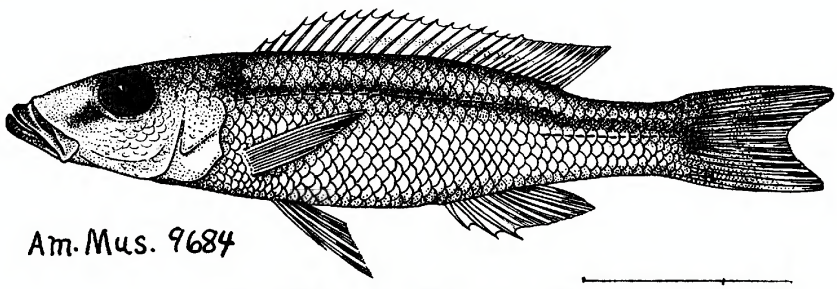

Fig. 2. *Haplochromis boultoni*, type.

Profile low and straight, touching upper rim of eye; back not elevated; lower jaw slightly projecting; mouth oblique; maxillary not nearly to under front margin of eye. Ventrals not quite reaching vent; caudal shallowly forked, the upper lobe the longer. Scales slightly ctenoid, small on chest, forward on top of head to middle of eye or beyond. Color in spirits brownish gray above, silvery white on sides and below, a dark blotch forward and slightly downward from the eye; a dark band, mostly about as wide as a scale, from the shoulder backward and downward to the base of the caudal, ending in a dark spot on the base of the middle caudal rays, and with an obscure arc curving upward and backward at its front end toward the dorsal origin. Fins colorless, except faint markings on the dorsal, and dark shades on the caudal lobes, that on the lower somewhat the more pronounced.

This seems to be closest to Regan's *Haplochromis spilorhynchus*. A larger number of dorsal spines and scales and fewer rows of scales on the cheek substantiate other differences therefrom, which might be due to size.